

Claims

- [c1] A scanning system comprising:
- a mount;
 - a detector coupled to said mount and detecting a first X-ray flux and a second X-ray flux and generating at least one detector signal therefrom;
 - a first emitter coupled to said mount and generating said first X-ray flux at a first angle relative to said detector;
 - a second emitter coupled to said mount and generating said second X-ray flux at a second angle relative to said detector; and
 - a computer activating said first emitter and said second emitter for electronic scanning such that said first emitter and said second emitter are activated in a source pattern including at least one of a sequential pattern, a random pattern, a simultaneous pattern, or a partial scan pattern, said computer receiving said at least one detector signal and generating an image signal therefrom.
- [c2] The system of claim 1 further comprising: a mount motor controller, wherein said mount comprises a platform moving said first emitter and said second emitter in response to signals from said mount motor controller.

- [c3] The system of claim 1, wherein said mount further defines a holding area for supporting patient tissue.
- [c4] The system of claim 1, wherein said detector further comprises a plurality of modules receiving said first X-ray flux and said second X-ray flux.
- [c5] The system of claim 1, further comprising at least one of a liquid cooling system, wherein said detector is cooled said liquid cooling system and a cooling system directly cooling an anode of the scanning system.
- [c6] The system of claim 1, further comprising a plurality of stationary X-ray sources generating a plurality of respective X-ray fluxes at varying angles with respect to said detector.
- [c7] The system of claim 1, wherein each emitter is collimated to view an entire field of view of said detector.
- [c8] The system of claim 1, wherein said angle through which said first emitter and said second emitter sweep include a number of emission flux angles but not necessarily all angles required for a particular application.
- [c9] The system of claim 1, wherein said computer generates said image signal as a function of emitter exposure time and a detector readout.

- [c10] The system of claim 1, wherein said first emitter and said second emitter electronically gate said first X-ray flux and said second X-ray flux.
- [c11] The system of claim 1, wherein said first emitter and said second emitter comprise at least one of several technologies comprising emission, spindt tips, thermal emission filaments, or electron gun.
- [c12] The system of claim 1 further comprising a stationary pre-patient collimator aligning said first X-ray flux and said second X-ray flux with respect to said detector.
- [c13] A mammography scanning system having a detector comprising:
an arc-shaped support system;
a plurality of X-ray emitters adapted to generate a plurality of X-ray fluxes, said plurality of X-ray emitters coupled to said arc-shaped support system and directed towards a common focus at varying angles with respect to said focus, wherein each of said plurality of X-ray emitters is collimated to view an entire detector field of view.
- [c14] The system of claim 13, wherein said angle through which said first emitter and said second emitter sweep include a number of emission flux angles but not neces-

sarily all angles required for a particular application.

[c15] The system of claim 13, wherein said plurality of X-ray emitters electronically gate said plurality of X-ray fluxes.

[c16] A scanning system comprising:
a mount comprising a platform, wherein said mount further defines a holding area for supporting patient tissue;
a mount motor controller moving at least one of said mount or said platform in response to adjustment signals,
a detector coupled to at least one of said mount or said platform and comprising a plurality of modules receiving a plurality of X-ray fluxes and generating detector signals therefrom;
a plurality of X-ray sources coupled to said platform and generating said plurality of X-ray signals at various angles with respect to said detector; and
a computer generating said adjustment signals as a function of parameters of said patient tissue, said computer further generating an image signal as a function of said detector signals.

[c17] The system of claim 16, wherein said mount is arranged for a scanning procedure comprising at least one of mammography, computed tomography (CT), vascular X-ray imaging, bone scanning, weld inspection, or metal

inspection.

- [c18] The system of claim 16, further comprising at least one of a liquid cooling system, a common conditioner for said sources and said detector, or multiple chillers for said sources and said detector.
- [c19] The system of claim 16, wherein said plurality of X-ray sources electronically gate said plurality of X-ray fluxes.
- [c20] The system of claim 16, wherein said platform comprises a hemispherical, cubicle, linear, or irregular shape.